SVENSK STANDARD SS-EN 62226-2-1



	Fastställd	Utgåva	Sida	Ingår i
Svenska Elektriska Kommissionen, SEK	2005-04-25	1	1 (1+55)	SEK Område 106

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Exponering för elektriska eller magnetiska fält inom det låga och intermediära frekvensområdet – Beräkning av strömtäthet och inre elektriska fält inducerade i människokroppen – Del 2-1: Exponering för magnetiska fält – 2D-modeller

Exposure to electric or magnetic fields in the low and intermediate frequency range – Methods for calculating the current density and internal electric field induced in the human body – Part 2-1: Exposure to magnetic fields – 2D models

Som svensk standard gäller europastandarden EN 62226-2-1:2005. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62226-2-1:2005.

Nationellt förord

Europastandarden EN 62226-2-1:2005

består av:

- europastandardens ikraftsättningsdokument, utarbetat inom CENELEC
- IEC 62226-2-1, First edition, 2004 Exposure to electric or magnetic fields in the low and intermediate frequency range - Methods for calculating the current density and internal electric field induced in the human body - Part 2-1: Exposure to magnetic fields -2D models

utarbetad inom International Electrotechnical Commission, IEC.

Standarden skall användas tillsammans med SS-EN 62226-1.

ICS 17.220.20

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EUROPEAN STANDARD

EN 62226-2-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English version

Exposure to electric or magnetic fields in the low and intermediate frequency range – Methods for calculating the current density and internal electric field induced in the human body Part 2-1: Exposure to magnetic fields – 2D models (IEC 62226-2-1:2004)

Exposition aux champs électriques ou magnétiques à basse et moyenne fréquence – Méthodes de calcul des densités de courant induit et des champs électriques induits dans le corps humain Partie 2-1: Exposition à des champs magnétiques – Modèles 2D (CEI 62226-2-1:2004) Sicherheit in elektrischen oder magnetischen Feldern im niedrigen und mittleren Frequenzbereich – Verfahren zur Berechnung der induzierten Körperstromdichte und des im menschlichen Körper induzierten elektrischen Feldes Teil 2-1: Exposition gegenüber magnetischen Feldern – 2D-Modelle (IEC 62226-2-1:2004)

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CENELEC

European Committee for Electrotechnical Standardization Comité Européen de Normalisation Electrotechnique Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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Foreword

The text of document 106/79/FDIS, future edition 1 of IEC 62226-2-1, prepared by IEC TC 106, Methods for the assessment of electric, magnetic and electromagnetic fields associated with human exposure, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62226-2-1 on 2004-12-01.

This Part 2-1 is to be used in conjunction with EN 62226-11).

The following dates were fixed:

_	latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2005-09-01
_	latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2007-12-01

Endorsement notice

The text of the International Standard IEC 62226-2-1:2004 was approved by CENELEC as a European Standard without any modification.

¹⁾ To be published.

CONTENTS

1	Scop	e	15
2	Analytical models		
	2.1	General	15
	2.2	Basic analytical models for uniform fields	17
3	Nume	erical models	19
	3.1	General information about numerical models	19
	3.2	2D models – General approach	21
	3.3	Conductivity of living tissues	23
	3.4	2D Models – Computation conditions	25
	3.5	Coupling factor for non-uniform magnetic field	25
	3.6	2D Models – Computation results	27
4	Valid	ation of models	31
Anr	iex A	(normative) Disk in a uniform field	33
Anr	iex B	(normative) Disk in a field created by an infinitely long wire	39
Anr	iex C	(normative) Disk in a field created by 2 parallel wires with balanced currents	55
Anr	iex D	(normative) Disk in a magnetic field created by a circular coil	77
Anr	iex E	(informative) Simplified approach of electromagnetic phenomena	.101
Anr indu	nex F (uction	(informative) Analytical calculation of magnetic field created by simple systems: 1 wire, 2 parallel wires with balanced currents and 1 circular coil	.105
Anr phe	iex G nome	(informative) Equation and numerical modelling of electromagnetic na for a typical structure: conductive disk in electromagnetic field	.109
Bib	liograp	bhy	.113
Fig		- Conducting disk in a uniform magnetic flux density	17
Fig		Einite elements meshing (2 nd order triangles) of a disk, and detail	17
Eig	uro 2	Conducting disk in a non-uniform magnetic flux density	، ∠ دد
Figi		- Conducting disk in a non-uniform magnetic nux density	23
Figi mag	ure 4 - gnetic	- Variation with distance to the source of the coupling factor for non-uniform field, K , for the three magnetic field sources (disk radius $R = 100 \text{ mm}$)	29
Fig	ure A.	1 – Current density lines J and distribution of J in the disk	33
Fig diar	ure A.: neter	2 – <i>J</i> = <i>f</i> [<i>r</i>]: Spot distribution of induced current density calculated along a of a homogeneous disk in a uniform magnetic field	35
Fig alor	ure A.: ng a d	$3 - J_i = f[r]$: Distribution of integrated induced current density calculated iameter of a homogeneous disk in a uniform magnetic field	37
Fig	ure B.	1 – Disk in the magnetic field created by an infinitely straight wire	39
Fig Ioca	ure B.: ated a	2 – Current density lines J and distribution of J in the disk (source: 1 wire, $t = 10 mm$ from the edge of the disk)	41

Figure B.3 – Spot distribution of induced current density along the diameter AA of the disk (source: 1 wire, located at $d = 10 \text{ mm}$ from the edge of the disk)	41
Figure B.4 – Distribution of integrated induced current density along the diameter AA of the disk (source: 1 wire, located at $d = 10 \text{ mm}$ from the edge of the disk)	43
Figure B.5 – Current density lines J and distribution of J in the disk (source: 1 wire, located at $d = 100 \text{ mm}$ from the edge of the disk)	43
Figure B.6 – Distribution of integrated induced current density along the diameter AA of the disk (source: 1 wire, located at $d = 100 \text{ mm}$ from the edge of the disk)	45
Figure B.7 – Parametric curve of factor K for distances up to 300 mm to a source consisting of an infinitely long wire (disk: $R = 100 \text{ mm}$)	47
Figure B.8 – Parametric curve of factor K for distances up to 1 900 mm to a source consisting of an infinitely long wire (<i>disk:</i> $R = 100 \text{ mm}$)	49
Figure B.9 – Parametric curve of factor K for distances up to 300 mm to a source consisting of an infinitely long wire (disk: $R = 200 \text{ mm}$)	51
Figure B.10 – Parametric curve of factor K for distances up to 1 900 mm to a source consisting of an infinitely long wire (disk: $R = 200 \text{ mm}$)	53
Figure C.1 – Conductive disk in the magnetic field generated by 2 parallel wires with balanced currents	55
Figure C.2 – Current density lines J and distribution of J in the disk (source: 2 parallel wires with balanced currents, separated by 5 mm, located at $d = 7,5$ mm from the edge of the disk).	57
Figure C.3 – $J_i = f[r]$: Distribution of integrated induced current density calculated along the diameter AA of the disk (source: 2 parallel wires with balanced currents, separated by 5 mm, located at d = 7,5 mm from the edge of the disk)	57
Figure C.4– Current density lines J and distribution of J in the disk (source: 2 parallel wires with balanced currents separated by 5 mm, located at $d = 97,5$ mm from the edge of the disk).	59
Figure C.5 – $J_{i} = f[r]$: Distribution of integrated induced current density calculated along the diameter AA of the disk (source: 2 parallel wires with balanced currents separated by 5 mm, located at $d = 97,5$ mm from the edge of the disk)	59
Figure C.6 – Parametric curves of factor K for distances up to 300 mm to a source consisting of 2 parallel wires with balanced currents and for different distances e between the 2 wires (homogeneous disk $R = 100 \text{ mm}$)	61
Figure C.7 – Parametric curves of factor K for distances up to 1 900 mm to a source consisting of 2 parallel wires with balanced currents and for different distances e between the 2 wires (homogeneous disk $R = 100 \text{ mm}$)	65
Figure C.8 – Parametric curves of factor K for distances up to 300 mm to a source consisting of 2 parallel wires with balanced currents and for different distances e between the 2 wires (homogeneous disk $R = 200 \text{ mm}$)	69
Figure C.9 – Parametric curves of factor K for distances up to 1 900 mm to a source consisting of 2 parallel wires with balanced currents and for different distances e between the 2 wires (homogeneous disk $R = 200 \text{ mm}$)	73
Figure D.1 – Conductive disk in a magnetic field created by a coil	77
Figure D.2 –Current density lines <i>J</i> and distribution of <i>J</i> in the disk (source: coil of radius $r = 50 \text{ mm}$, conductive disk $R = 100 \text{ mm}$, $d = 5 \text{ mm}$)	79
Figure D.3 – $J_i = f[r]$: Distribution of integrated induced current density calculated along the diameter AA of the disk <i>(source: coil of radius r = 50 mm, conductive disk R = 100 mm, d = 5 mm)</i>	79
Figure D.4 – Current density lines J and distribution of J in the disk (source: coil of radius $r = 200 \text{ mm}$, conductive disk $R = 100 \text{ mm}$, $d = 5 \text{ mm}$)	81

Figure D.5 – $J_i = f[r]$: Distribution of integrated induced current density calculated along the diameter AA of the disk <i>(source: coil of radius r = 200 mm, conductive disk R = 100 mm, d = 5 mm)</i>
Figure D.6 – Current density lines J and distribution of J in the disk (source: coil of radius $r = 10 \text{ mm}$, conductive disk $R = 100 \text{ mm}$, $d = 5 \text{ mm}$)83
Figure D.7 – $J_i = f[r]$: Distribution of integrated induced current density calculated along the diameter AA of the disk <i>(source: coil of radius r = 10 mm, conductive disk R = 100 mm, d = 5 mm)</i>
Figure D. 8 – Parametric curves of factor K for distances up to 300 mm to a source consisting of a coil and for different coil radius r (homogeneous disk $R = 100$ mm)85
Figure D.9 – Parametric curves of factor K for distances up to 1 900 mm to a source consisting of a coil and for different coil radius r (homogeneous disk $R = 100$ mm)89
Figure D.10 – Parametric curves of factor K for distances up to 300 mm to a source consisting of a coil and for different coil radius r (homogeneous disk $R = 200 \text{ mm}$)93
Figure D.11 – Parametric curves of factor K for distances up to 1 900 mm to a source consisting of a coil and for different coil radius r (homogeneous disk $R = 200 \text{ mm}$)
Table 1 – Numerical values of the coupling factor for non-uniform magnetic field K for
different types of magnetic field sources, and different distances between sources and conductive disk ($R = 100 \text{ mm}$)
Table B.1 – Numerical values of factor K for distances up to 300 mm to a source consisting of an infinitely long wire (disk: $R = 100 \text{ mm}$)
Table B.2 –Numerical values of factor K for distances up to 1 900 mm to a source consisting of an infinitely long wire (<i>disk:</i> $R = 100 \text{ mm}$)
Table B.3 – Numerical values of factor K for distances up to 300 mm to a source consisting of an infinitely long wire (disk: $R = 200 \text{ mm}$)
Table B.4 –Numerical values of factor K for distances up to 1 900 mm to a source consisting of an infinitely long wire (disk: $R = 200 \text{ mm}$)
Table C.1 – Numerical values of factor K for distances up to 300 mm to a source consisting of 2 parallel wires with balanced currents (<i>homogeneous disk:</i> $R = 100 \text{ mm}$)63
Table C.2 – Numerical values of factor K for distances up to 1 900 mm to a source consisting of 2 parallel wires with balanced currents (<i>homogeneous disk:</i> $R = 100 \text{ mm}$)67
Table C.3 – Numerical values of factor K for distances up to 300 mm to a source consisting of 2 parallel wires with balanced currents (<i>homogeneous disk:</i> $R = 200 \text{ mm}$)71
Table C.4 – Numerical values of factor K for distances up to 1 900 mm to a source consisting of 2 parallel wires with balanced currents (<i>homogeneous disk:</i> $R = 200 \text{ mm}$)75
Table D.1 – Numerical values of factor K for distances up to 300 mm to a source consisting of a coil (homogeneous disk: $R = 100 \text{ mm}$)
Table D.2 – Numerical values of factor K for distances up to 1 900 mm to a source consisting of a coil (homogeneous disk: $R = 100 \text{ mm}$)91
Table D.3 – Numerical values of factor K for distances up to 300 mm to a source consisting of a coil (homogeneous disk: $R = 200 \text{ mm}$)95
Table D.4 – Numerical values of factor K for distances up to 1 900 mm to a source consisting of a coil (homogeneous disk: $R = 200 \text{ mm}$)

EXPOSURE TO ELECTRIC OR MAGNETIC FIELDS IN THE LOW AND INTERMEDIATE FREQUENCY RANGE – METHODS FOR CALCULATING THE CURRENT DENSITY AND INTERNAL ELECTRIC FIELD INDUCED IN THE HUMAN BODY –

Part 2-1: Exposure to magnetic fields – 2D models

1 Scope

This part of IEC 62226 introduces the coupling factor K, to enable exposure assessment for complex exposure situations, such as non-uniform magnetic field or perturbed electric field. The coupling factor K has different physical interpretations depending on whether it relates to electric or magnetic field exposure.

The aim of this part is to define in more detail this coupling factor K, for the case of simple models of the human body, exposed to non-uniform magnetic fields. It is thus called "coupling factor for non-uniform magnetic field".

All the calculations developed in this document use the low frequency approximation in which displacement currents are neglected. This approximation has been validated in the low frequency range in the human body where parameter $\epsilon \omega <<\sigma$.

For frequencies up to a few kHz, the ratio of conductivity and permittivity should be calculated to validate this hypothesis.